



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of : **Confirmation No. 8168**  
Per ALMDAHL et al. : Attorney Docket No. 2004\_1099A  
Serial No. 10/501,325 : Group Art Unit 3671  
Filed November 9, 2004 : Examiner Thomas A. Beach  
RISER CONTROL DEVICE : **Mail Stop: Appeal Brief -Patents**

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**APPELLANTS' BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Sir:

The following is Appellant's Brief, submitted in under the provisions of 37 C.F.R. § 41.37. The fee of \$500.00, as required by 37 C.F.R. § 41.20, is enclosed.

**REAL PARTY IN INTEREST.**

The real party in interest is Norsk Hydro ASA, the assignee of record (Reel/Frame: 015974/0674).

### **RELATED APPEALS AND INTERFERENCES**

There are no related appeals and interferences.

### **STATUS OF CLAIMS**

Claims 1-6 are cancelled.

Claims 7-9 and 15 are rejected.

Claims 10-14 and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

The rejections of claims 7-9 and 15 are being appealed. A complete copy of all of the pending claims is provided in the attached Claims Appendix.

### **STATUS OF AMENDMENTS**

There were no amendments filed subsequent to the final rejection of August 25, 2005.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

The description of the subject matter of the rejected claims is presented below. All references to the specification refer to the substitute specification filed on June 2, 2005.

The subject matter of independent claim 7 is directed to a riser control device for use with spool or horizontal production trees for a well in sub-sea oil and gas installations. As shown in Fig. 3, the device includes a housing (1, 2), a pair of radially movable rams (6) disposed within the housing, a pair of radially movable shear blades (7) disposed within the housing and a vertically disposed actuator assembly for simultaneously driving the rams and the blades. Note that the rams are disposed in an opposed relation for the purpose of insulating the well, and the radially movable shear blades are disposed in an opposed relation for the purpose of cutting off an intervention string.

Figs. 4(a)-(c) show a sequence of operations of the riser control device from an open position (Fig. 4a) to a closed position (Fig. 4c). This sequence of operations is described on page 7, lines 13-20 of the specification.

As defined in claim 8, the vertically disposed actuator assembly includes a hydraulically driven annular piston (23) disposed in an annular chamber (29), a piston rod (9) connected to the piston, and a translation beam (8) connected to the piston rod for transmitting movement of the piston to open and close the rams and the blades, simultaneously (see page 5, lines 14-19; and page 6, lines 1-3).

**GROUNDΣ OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 7-9 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,580,626 issued to Jones (hereinafter the "Jones patent") in view of U.S. Patent No. 4,441,742 issued to Owens, III (hereinafter the "Owens patent").

## **ARGUMENT**

The present invention, as defined in independent claim 7, is directed to a riser control device for use with spool or horizontal production trees for a well in sub-sea oil and gas installations. As specified in claim 7, the device requires, *inter alia*:

a pair of radially movable rams disposed within said housing, said rams being disposed in opposed relation for isolating the well;

a pair of radially movable shear blades disposed within said housing, said blades being disposed in opposed relation for cutting off an intervention string; and

a vertically disposed actuator assembly, disposed within said housing, for simultaneously driving said rams and said blades.

\* \* \* \*

Rejection of claims 7-9 and 15 as being unpatentable over the Jones patent in view of the Owens patent.

In the rejection, the Examiner explains that:

"Jones shows a riser control device, particularly designed to be used in connection with spool or horizontal production trees for wells in sub-sea oil and gas installations, where within a housing (32) provided in opposed direction radially movable pair of rams (26, figure 1) for isolating the well and simultaneously, in opposed direction radially movable pair of shear blades (34) for cutting off an intervention string, the rams and blades being

*driven by means of a within the housing (32) with horizontal actuation, but does not show vertical actuation."*

The **Jones** patent discloses a known blowout preventer (BOP) (20, Fig. 1) having a housing (21) defining a vertical bore (22), a pair of shear rams (26A, 26 B), and a pair of blades (BU, BL) on the rams. Each ram is hydraulically actuated by means of a horizontal cylinder (28) of the housing (21), piston means (29), and a horizontal rod (30) extending through a packing or seal (31) disposed within an opening through a wall of the housing (see col. 7, lines 36-49). Note that the pistons are provided in a separate housing located on the outside of a drill string or riser. Further, elements 34, considered by the Examiner to be shear blades, are actually "packings" carried by the rams (col. 8, lines 8-11).

The Jones device represents a known arrangement that is totally different from the present invention with regard to the mechanism and arrangement for driving the shear rams.

In an attempt to cure the deficiencies of the Jones patent, the Examiner applies the Owens patent and explains that:

*"Owens shows a similar riser control device having a pair of rams vertically actuatable to isolate the well (figures 1-2) where the actuator is hydraulically driven and annular piston and chamber device (claim 8; 43), which via piston rods (45) and translation beams 26/54/40 transforms the movement of the piston to open or close the rams whereby the radial movement of the shear blades implies radial movement of the rams (claims 9, 15 & 6)." (emphasis added)*

Based on this interpretation of the Owens reference, the Examiner concludes that:

*"it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Jones, as taught by Owens, to include vertical actuation to improve the (col. 2, lines 25-38) force applied to the cutting blades improving the cutting properties of the apparatus."*

The **Owens** patent, however, discloses a remotely operated connector that is designed to connect underwater well members. Clearly, the Owens system for "connecting" well members has nothing in common with the Jones patent or the present invention, which is related to a riser control device for preventing and controlling unexpected blow-outs or well disruptions.

The text in Owens, which is relied on by the Examiner, describes the objects of the Owens invention, which include achieving in connectors "a marked increase in the clamping force developed by the connector." There is nothing in the cited text that would suggest improving "cutting properties" of cutting blades as stated by the Examiner.

I. The Examiner's characterization of the Owens connector as a "riser control device" is clearly factually incorrect.

As described above, Owens discloses a remotely operated connector that is designed to connect underwater well members. Clearly, the Owens

system for "connecting" well members is not a riser control device for preventing and controlling unexpected blow-outs or well disruptions. The Examiner contention that Owens discloses "a similar riser control device" is completely factually incorrect.

This argument was presented in the "Request for Reconsideration" filed November 22, 2005, and the Examiner, in an Advisory action, responded that:

*"Owens is clearly in the same endeavor and remains a teaching of vertically actuating these elements and is not required to have all the components already shown by the primary reference."*

As demonstrated above, the Examiner's statement is clearly incorrect. The Owens patent has nothing to do with the blowout preventer disclosed in the Jones patent. The Examiner's obvious mischaracterization of the Owens patent as a riser control device with shear blades is simply an attempt to "create" a plausible combination that would meet the limitations of claim 7.

II. The Examiner's statement that the Owens device has "a pair of rams vertically actuatable to isolate the well" is factually incorrect.

Owens does not have a pair of rams that can be actuated to control a well.

Although the Examiner refers to Figs. 1-2 of the Owens patent as showing rams that control the well, these figures actually show a portion of an underwater wellhead assembly with a connector disposed outside of and connecting a lowermost body 1 and an upright wellhead lower body 2 (see col. 3, lines 49-52). The disclosed connector does not function to isolate the well. The Examiner's statement to the contrary is clearly factually incorrect. It is noted that the Examiner was specifically requested to identify the rams in Owens, however, Applicants have not been advised as to what structure could possibly be considered to be rams in the Owens patent.

III. There clearly is no motivation to combine the Jones and Owens references.

One of ordinary skill in the art would not have been motivated to combine the "blowout preventer" of Jones with the "connector" of Owens as proposed by the Examiner. If the two teachings were combined, the resulting structure would simply be a combined BOP and connector. What possible suggestion or motivation could there be to modify the Jones BOP with the driving mechanism of the Owens connector.

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of

references can be combined only if there is some suggestion or incentive to do so." In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). In this case, the Examiner has relied upon hindsight, aided by the mischaracterization of the Owens patent, to arrive at the determination of obviousness. However, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. In re Gormon, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

IV. The Examiner has mis-characterized other features of the Owens connector.

Owens teaches that the connector mechanism is provided in a separate housing or pocket on the outside of the well housing. This is clearly different from the device defined in claim 7 in which the vertically disposed actuator assembly is provided inside the housing of the riser control device. The actuator assembly of the present invention functions to simultaneously drive the rams and the blades, which are also disposed in the housing.

Owens does not have shear blades nor an annular piston. Note that the pistons, disclosed in the Owens reference, are common piston/cylinder devices (i.e. circular discs disposed in cylindrical chambers). Clearly, the

piston/cylinder arrangement of Owens cannot be construed as an annular piston in an annular chamber.

Further, claim 8 specifically requires a hydraulically driven annular piston disposed in an annular chamber. Therefore, even if the references could be combined, as proposed by the Examiner, the proposed Jones/Owens combination would not meet each and every limitation of claim 8.

\* \* \* \*

### **CONCLUSION**

For the reasons set forth above, it is submitted that the proposed Jones/Owens combination does not establish a proper basis for rejection of claims 7-9 and 15 and is clearly untenable. Therefore, the Examiner's decision to finally reject claims 7-9 and 15 should be reversed.

Respectfully submitted,

Per ALMDAHL et al.

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## **CLAIMS APPENDIX**

7. A riser control device for use with spool or horizontal production trees for a well in sub-sea oil and gas installations, said device comprising:

    a housing;

    a pair of radially movable rams disposed within said housing, said rams being disposed in opposed relation for isolating the well;

    a pair of radially movable shear blades disposed within said housing, said blades being disposed in opposed relation for cutting off an intervention string; and

    a vertically disposed actuator assembly, disposed within said housing, for simultaneously driving said rams and said blades.

8. The riser control device as claimed in claim 7, wherein said vertically disposed actuator assembly comprises a hydraulically driven annular piston disposed in an annular chamber, a piston rod connected to said piston, and a translation beam connected to said piston rod for transmitting movement of said piston to open or close said rams and blades.

9. The riser control device as claimed in claim 8, wherein said blades and said rams are connected such that radial movement of said blades can cause radial movement of said rams.

10. The riser control device as claimed in claim 9, wherein each of said rams has a slot in a lower face thereof, and each of said blades has a spigot on an upper section thereof, wherein said spigots are received in said slots, respectively, thereby forming the connection between said rams and blades.

11. The riser control device as claimed in claim 10, wherein each of said spigots can move in said respective slot without effecting movement of said blade.

12. The riser control device as claimed in claim 10, wherein each of said slots extends over a distance and is parallel to an axis of said respective ram, and each of said spigots is movable along the length of said respective slot without effecting movement of said respective blade.

13. The riser control device as claimed in claim 7, wherein said vertically disposed actuator assembly comprises:

a first hydraulically driven annular piston disposed in a first annular chamber, a first piston rod connected to said first piston, and a first translation beam connected to said first piston rod for transmitting movement of said first piston; and

a second hydraulically driven annular piston disposed in a second annular chamber, a second piston rod connected to said second piston, and a second translation beam connected to said second piston rod for transmitting movement of said second piston,

wherein linear movement of said first and second piston rods is parallel to a longitudinal axis of said housing, and such movement is transmitted to said blades and rams to cause radial movement thereof that is perpendicular relative to the linear movement of said piston rods.

14. The riser control device as claimed in claim 7, wherein said housing comprises upper and lower interconnected housing sections, and said vertically disposed actuator assembly is disposed in said lower housing section.

15. The riser control device as claimed in claim 7, wherein said blades and said rams are connected such that radial movement of said blades can cause radial movement of said rams.

16. The riser control device as claimed in claim 15, wherein each of said rams has a slot in a lower face thereof, and each of said blades has a spigot on an upper section thereof, wherein said spigots are received in said slots, respectively, thereby forming the connection between said rams and said blades.

17. The riser control device as claimed in claim 16, wherein each of said spigots can move in said respective slot without effecting movement of said blade.

18. The riser control device as claimed in claim 16, wherein each of said slots extends over a distance parallel to an axis of said respective ram, and each of said spigots is movable along the length of said respective slot without effecting movement of said respective blade.

**EVIDENCE APPENDIX**

None

**RELATED PROCEEDINGS APPENDIX**

None